THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.

Paper No. 15

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte JACK W. SAVAGE and JOHN R. SURIANO

Appeal No. 1997-3089
Application No. 08/577,839

ON BRIEF

Before KRASS, BARRETT, and RUGGIERO, Administrative Patent Judges.

KRASS, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the final rejection of claims 1 through 15, all of the claims pending in the application.

The invention is directed to a flux damper for permanent magnet type electric motors. A conductive ring is employed to

damp changes in magnetic flux thereby damping noise and vibration which the flux changes induce.

Representative independent claim 1 is reproduced as follows:

1. In an electric motor, in which a rotating magnetic flux causes vibration in another component, the improvement comprising:

a) a conductive ring, near the component, in which rotating flux induces a time-varying current.

The examiner relies on the following references:

Persson	3,663,851	May 16, 1972
King, Jr. (King)	3,793,546	Feb. 19, 1974
Simpson	3,929,390	Dec. 30, 1975
Allegre et al. (Allegre)	4,329,609	May 11, 1982

Claims 1 through 15 stand rejected under 35 U.S.C. § 103. As evidence of obviousness, the examiner offers Persson, King and Allegre with regard to claims 1 through 6 and 8 through 12, adding Simpson, in a new ground of rejection entered in the answer, with regard to claims 7 and 13 through 15.

Reference is made to the briefs and answer for the respective positions of appellants and the examiner.

OPINION

We have carefully reviewed, inter alia, the applied references, as well as the arguments presented by appellants and the examiner. As a result of such a review we will sustain the rejection of claim 3 under 35 U.S.C. § 103 but we will not sustain the rejection of any other claim based on the references and rationale applied by the examiner.

With regard to independent claim 1, although rather broad in scope, the claim does require a conductive "ring" and it is in that ring in which rotating flux "induces a time-varying current." The examiner applies Persson, which describes a DC motor having many of the characteristics disclosed by the instant application but, as the examiner admits, Persson does not disclose "a conductive ring for damping (reducing) the vibration which is caused by the changes of the rotating magnetic flux" [answer-page 4]. The examiner then relies on "end ring 21" of King and the teaching of Allegre, of installing a damping winding which includes two conductor rings, to conclude that it would have been obvious "to include at least one or two conductive rings, as taught by King and Allegre, in the Persson d.c. motor because this would reduce the unwanted vibration in the motor" [answer-page 4].

The “rings” of King and Allegre appear to be part of a squirrel cage structure which structure, as a whole, acts to reduce vibration. Thus, we agree with appellants that there does not appear to be any reason to dissect these rings from the rest of the squirrel cage structures and use only those rings in Persson to achieve the claimed invention. There clearly is no suggestion in any of these references to make such a modification.

Moreover, appellants argue that even if such a combination were to be made, the rings of King and Allegre have no time-varying current induced in them by a rotating flux. Appellants submit sketches and an explanation as to why the rings of King and Allegre have no time-varying current induced in them by a rotating flux [principal brief-pages 29-31] and such explanation appears reasonable to us. The examiner’s response [answer-page 9] is to state that it is a “well-known characteristic of electromagnetic fields that when a rotating magnetic flux penetrates a conductive device the flux induces a time varying current in the device.” However, based on appellants’ explanation, it does not appear that the flux lines would pass through ring 21 in King, for example. But, again,

as appellants assert, even if a magnetic field passed through ring 21, there is no evidence that rotation of the ring would induce a current in the ring. Clearly, King does not provide such evidence and the examiner has provided no evidence of such, especially important in the face of appellants' reasonable argument that such current is *not* induced in the ring.

More importantly, even if the King and Allegre teachings were to be combined with Persson, we are at a loss as to how, exactly, such a combination would be made. There is no indication of how the squirrel cage structures of King and Allegre would be incorporated into Persson. If, as the examiner appears to indicate, only the end rings of these structures would be incorporated, the question again is raised as to why the artisan would have dissected the squirrel cage structures of King and Allegre and used only the end rings therefrom. Further, why would the artisan have been led to modify Persson so as to include the rings and how would such rings be installed in Persson? The examiner's rejection appears to rely on picking one type of motor from one reference, a conductive ring from another reference and a

teaching of damping vibration from yet another reference, i.e., choosing bits and pieces from various references, and then haphazardly throwing together these pieces, using appellants' disclosure as a blueprint, in order to arrive at the instant claimed subject matter. For these reasons, we find the examiner's combination to be untenable even in view of the great breadth of independent claim 1.

Similarly, with regard to independent claim 5, the claim calls for a conductive loop through which flux passes and generating a current in the loop when a first flux occurs so as to generate a second flux which opposes the change in the first flux. Again, we find no teaching or suggestion in the applied references of these limitations.

Simpson was applied, in combination with Persson, King and Allegre, with regard to dependent claims 7 and 13 through 15 but we find nothing in Simpson which would supply the deficiencies noted supra regarding independent claims 1 and 5. Accordingly, the rejection of claims 1, 2, 5, 6 through 10, 12, 13 and 15 under 35 U.S.C. § 103 is reversed.

We reach a different result with regard to independent claim 3. In our view, this claim is so broad as to read on

Allegre, alone. Allegre would appear to meet the limitations of broad independent claim 3. Allegre discloses an electric motor and a means for generating a magnetic flux. The means for generating the flux clearly rotates and interacts with a component, e.g., the ring of the stator magnetic circuit. Vibration is induced in that component. See column 2, lines 22-33, which described vibrations of the ring. Finally, Allegre discloses a "means for reducing said vibration" [Allegre's damping winding], as broadly as that term is recited in claim 3. To the extent that we may have applied the Allegre reference in a manner somewhat differently than did the examiner, this does not constitute a new ground of rejection. In re Bush, 296 F.2d 491, 496, 131 USPQ 263, 267 (CCPA 1961); In re Halley, 296 F.2d 774, 778, 132 USPQ 16, 20 (CCPA 1961).

We are not prepared, however, to interpret dependent claims 4, 11 and 14 so broadly as claim 3. Because we have no teaching by Allegre or any evidence presented by the examiner that the damping winding of Allegre operates by "utilizing Lentz's Law to reduce flux changes which reach said component" [claim 4]; that the motor of Allegre may operate with a DC current causing the rotor to rotate [claim 11]; or that the

rotor carries the means which generates the magnetic flux and rotates with respect to said conductive ring [claim 14], we will not sustain the rejection of these claims under 35 U.S.C. § 103.

We have sustained the rejection of claim 3 under 35 U.S.C. § 103 but we have not sustained the rejection of claims 1, 2 and 4 through 15 under 35 U.S.C. § 103. Accordingly, the examiner’s decision is affirmed-in-part.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

AFFIRMED-IN-PART

ERROL A. KRASS Administrative Patent Judge	)
LEE E. BARRETT Administrative Patent Judge	) BOARD OF PATENT APPEALS AND INTERFERENCES
JOSEPH F. RUGGIERO Administrative Patent Judge	)

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